

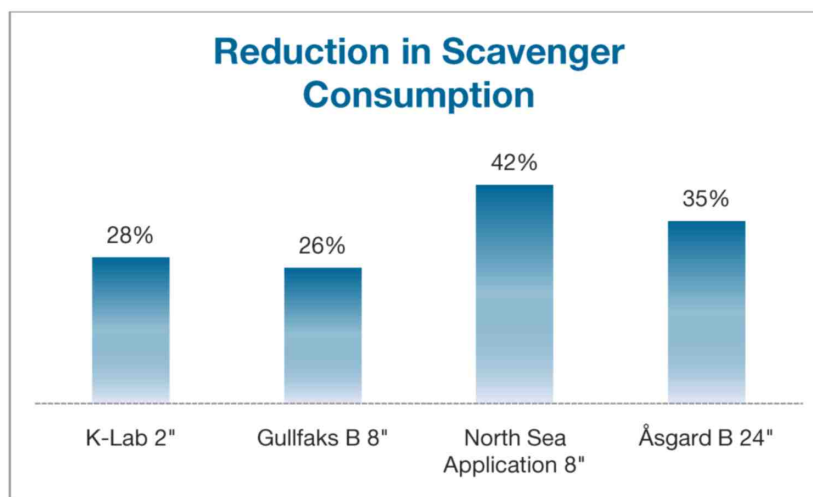
# C100 INJECTION MIXER



Together creating pure oil, gas and water.

The ProSep C100 Injection Mixer is designed to achieve efficient mass transfer for both liquid-liquid and gas-liquid flows. The injection mixers can be installed independently of pipeline orientation and there is no upstream straight pipe requirement. They are supplied as spool pieces for installation between RF/RTJ flanges. The Injection Mixer has no moving parts.

## SCAVENGING APPLICATION AND PIPE DIMENSION



## PERFORMANCE

For H<sub>2</sub>S scavenging, operators typically experience a reduction of 30-40% in chemical consumption compared to conventional injection methods.

Some examples of our experience with H<sub>2</sub>S scavenging are presented below. The graph clearly shows a considerable chemical reduction for all cases.

## TECHNOLOGY

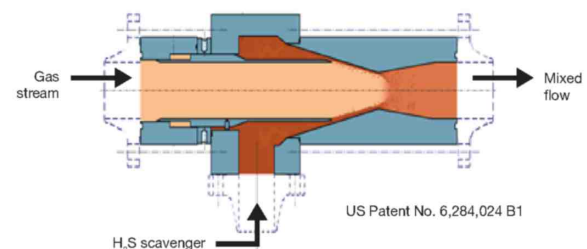
The patented C100 mixer design produces a homogeneous droplet distribution by secondary droplet break-up which increases the contact surface of the injected chemical and the main flow.

The liquid is supplied to the contactor through an annulus where the liquid is transformed to small liquid droplets by locally increasing the dynamic pressure of the flow. The large surface area distribution of the injected scavenger as imposed by the C100 injection mixer, rather than using a

single quill or nozzles, serves to distribute and expose the chemical well within the main flow stream.

The internal mixer geometry sets up turbulent eddies that further enhance mixing in the pressure recovery section (expanded section) and the downstream pipe flow.

As a result, a high degree of mixing with a correspondingly large interfacial surface can be achieved at a low pressure drop of around 0,2 bar (2,9 psi).



The ProSep C100 Injection Mixer

## SAUDI ARAMCO UGOSP 4

A C100 mixer was installed at Saudi Aramco's UGOSP-4 facility. It efficiently injects demulsifier at the production header and is fitted with three injection ports that are directed to the internal annulus and distributed in the bulk-zone of the three phase flow, maximizing its utilisation.

This mixer was designed according to a crude oil flow rate of 275 MOBD, a gas flow rate of 120 MMSCFD and a water flow rate of 70 MBOD.

Injection of the demulsifier by means of the C100 safeguards both steady state and homogeneous distribution of the chemical into the bulk of the liquid flow. The shape of the mixer generates a redistribution of the oil-water bulk zone at the same time as the chemicals are mixed into the redistributed liquid-liquid mixture. The C100 creates a "one-shot" exposure, avoiding any excessive pressure drop and risk for water hammer effects in presence of slug flow.

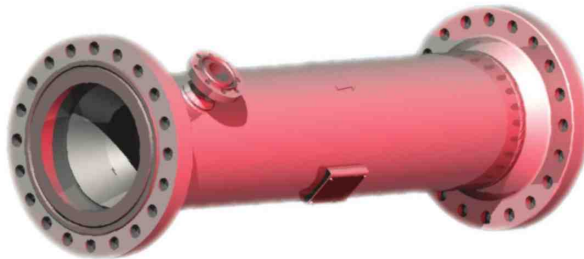


## REFERENCES

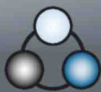
Available upon request.

## FOR MORE INFORMATION

Contact your nearest ProSep office  
[www.prosep.com](http://www.prosep.com)



## About ProSep



ProSep is a technology-based process solutions provider for the upstream oil and gas industry.

The Company designs, develops, manufactures and commercializes technologies to separate oil, gas and water generated by oil and gas production.

ProSep's innovative offerings have been awarded three Spotlight on New Technology Awards from the annual Offshore Technology Conference in Houston in 2005 and onwards, comprising the proprietary technologies ProScav, CTour and ProSalt.